activity at least three times a week. Obesity (OR) was defined by a binary indicator if body mass index was greater than 30. The structural parameter, average treatment effect (ATE) was defined as the impact of PA on obesity, if individuals are randomly assigned to PA. The second parameter average treatment in the treated (ATT) measure the impact of PA on obesity if individuals became physically active, rather than for the population as a whole. To control for the unobservable factors affecting PA, we specified a recursive bivariate probit model. To avoid identification based on functional form, instruments added were presence of any limitations, and injury. Covariates included age, gender, race, education, geographical and metropolitan area location, smoking status, comorbidities and perceived physical and mental health.

RESULTS: Based on naive probit model, the probability of obesity, evaluated at the means of the data, was 0.099 lower amongst those who were physically active (p < 0.05). Effect of selection bias was positive and significant (rho = 0.55 p < 0.001). Based on the recursive probit model, ATT was a 27.7% decrease (95% CI: -0.279 to -0.275) while ATE was a 38.8% decrease (95% CI: -0.391 to -0.385) in probability of obesity amongst those who were physically active. CONCLUSIONS: Unobservable heterogeneity may be masking the true effect of physical activity on obesity. According to this bias confirms a significant protective effect of physical activity against the likelihood of obesity.

TREATMENT OF TRANSFUSIONAL IRON OVERLOAD IN PATIENTS WITH MYELODYSPLASTIC SYNDROME OR SEVERE ANEMIA: DATA FROM MULTICENTER CLINICAL PRACTICES


OBJECTIVES: Patients with myelodysplastic syndrome (MDS) or severe anemia requiring repeated transfusions of red blood cells (RBCs) risk developing transfusional iron overload (TIO), which can cause organ damage and reduce survival. Iron chelation therapy (ICT) has been shown to improve survival and quality of life in patients with TIO; however, ICT utilization in clinical practices is not well understood.

METHODS: The medical records of patients diagnosed with MDS or severe anemia 26 months before data extraction, aged 21 years at their diagnosis, received ≥1 RBC transfusion were reviewed. ICT-eligibility was defined as ≥20 units of RBCs transfused or ≥2 serum ferritin (SF) tests ≥2100 mcg/L. Study endpoint was ICT-treatment rate among ICT-eligible patients with lower-risk MDS [IPSS low or intermediate-1]; WHO (RA, RARS, RCMD, RCMD-RS or 5q); FAB (RA or RARS). Characteristics and survival of treated and untreated groups were described. RESULTS: Medical records data for 283 patients were extracted. Among 78 ICT-eligible patients with lower-risk MDS, only 32 (41%) received ICT. At ICT-initiation, treated patients received on average 13.3 transfusions (27.6 units) and mean first SF near-ICT-initiation was twice the recommended level at 1949 mcg/L. Median overall survival for all ICT-eligible patients was significantly longer for those ICT-treated than untreated (8.7 versus 4.7 years, log-rank p = 0.02; multivariate hazards ratio = 0.372, p = 0.03). CONCLUSIONS: This observational study finds only 41% of ICT-eligible patients with lower-risk MDS received ICT in clinical practice, and their treatment was initiated later than recommended. Among all ICT-eligible patients, 22% received ICT and had a significantly better overall survival than untreated patients.

THE IMPACT OF ADHERENCE ON THE COSTS AND BENEFITS OF INTENSIVE LIFESTYLE MANAGEMENT (ILM) IN OVERWEIGHT AND OBSESE PATIENTS AT HIGH RISK FOR TYPE-2 DIABETES MELLITUS (T2DM)

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OBJECTIVES: The Diabetes Prevention Program (DPP) demonstrated that ILM including reduced body weight and increased physical activity reduces the risk of developing T2DM. Controversy over magnitude of whether these benefits can be achieved cost-effectively has diverted attention from questions about the generalizability of the results. The high rate of treatment adherence in the DPP may not be reproducible in actual practice. The objective of this study was to assess the impact of treatment adherence to ILM on estimates of health benefits and costs for a cohort of overweight and obese patients at high risk of developing T2DM. METHODS: The IHE/NJ weight management model, a Markov-based, micro-simulation model that includes standard co-morbidities and risk factors, was used to simulate the outcomes of ILM over 25 years for 500 cohorts of 1,000 hypothetical overweight and obese pre-T2DM patients. Efficacy and baseline population characteristics were taken primarily from the DPP. Costs for ILM and care associated micro- and macrovascular complications and other co-morbidities as well as quality of life data was obtained from existing literature. Four scenarios were assessed: adherence as observed in the DPP and reductions in the DPP adherence rate by 25%, 50%, and 75%. RESULTS: In all, ILM resulted in 19.96% undiscounted life years (LYs), 18.03 undiscounted quality-adjusted life years (QALYs), at a cost of $78,965, assuming DPP-like adherence. Forty percent of the cohort ultimately developed T2DM. Reducing adherence by 25%, 50%, and 75% reduced LYs by 0.17, 0.29, and 0.40, QALYs by 0.36, 0.68, and 1.03, and increased costs by $2154, $4190, $6813, respectively. The rate of T2DM transition increased by 5, 10, and 15 percentage points, respectively. CONCLUSIONS: Patient adherence is an important driver of the benefits and costs of ILM and should be considered explicitly in cost-effectiveness estimates.